

Country Factsheet Series

Socio-economic inequalities in cancer mortality across the EU27, Norway and Iceland

Slovakia

Key messages

In Slovakia, mortality rates for total cancer in 2015–2019* were higher in men than in women. The national average mortality rates were higher than the European average and exhibited a strong social gradient, with mortality rates progressively increasing as educational levels decreased in both sexes. The social gradient was observed for all cancer sites assessed, except for breast cancer. Despite the existence of a social health insurance system in Slovakia, financial barriers prevent equitable access to prevention and care services, particularly among the most disadvantaged. This may hinder efforts to reduce existing socio-economic inequalities in cancer care.

Educational inequalities in total cancer mortality

In Slovakia, total cancer** mortality rates in 2015–2019 were 627 per 100,000 among men and 325 per 100,000 among women. Rates also varied across educational level according to a social gradient, which was more prominent in men. Men with primary education had cancer mortality rates approximately two times higher than men with tertiary education (895 vs 448 per 100,000). Among women, those with primary education had cancer mortality rates about

40% higher than those among women with tertiary education (391 vs 277 per 100,000).

The difference in rates between primary and tertiary education (i.e., the inequality gap) in Slovakia was higher than the European average***, and similar to other Baltic/Central/Eastern European countries like Poland and Romania, but lower than that in Latvia and Lithuania.

* In Slovakia, the estimates were based on the method used for group B countries. See methodological notes at the end and the Methodological report for more information.

** All cancers combined

*** European average is calculated considering 27 EU Member states + Norway and Iceland

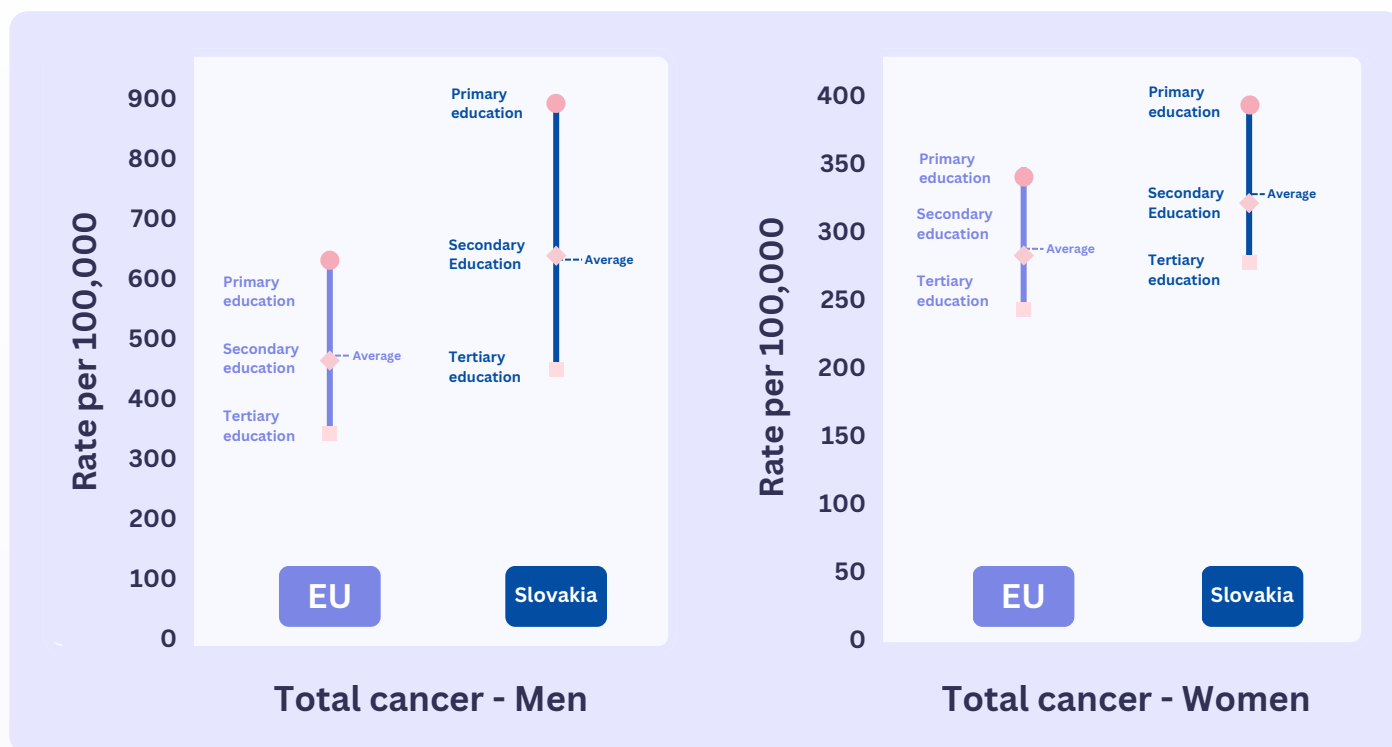


Figure 1. Total cancer mortality by sex and education level

Educational inequalities in mortality by cancer site



Lung cancer

Lung cancer was the primary contributor to total cancer mortality among men, for whom rates were over three times higher than among women. Compared to the European average, the national mortality rate among men was higher, while among women, the national average was lower. There was a clear social gradient in both sexes, with increasing mortality rates as educational levels decreased. Among men, the extent of educational inequalities in lung cancer mortality was higher than the European average. These differences in lung cancer mortality across sex and socio-economic position may be, at least partly, explained by past patterns in tobacco smoking in these groups. In Slovakia, smoking rates have declined substantially in recent years. Nevertheless, daily smoking prevalence among individuals aged 15 and older in 2019 remained slightly higher than the EU average of (20% vs 18%) [1]. Large educational differences were also observed in the same year, as smoking rates among

those with lower education is 23%, compared to 10% for those with higher education [1].

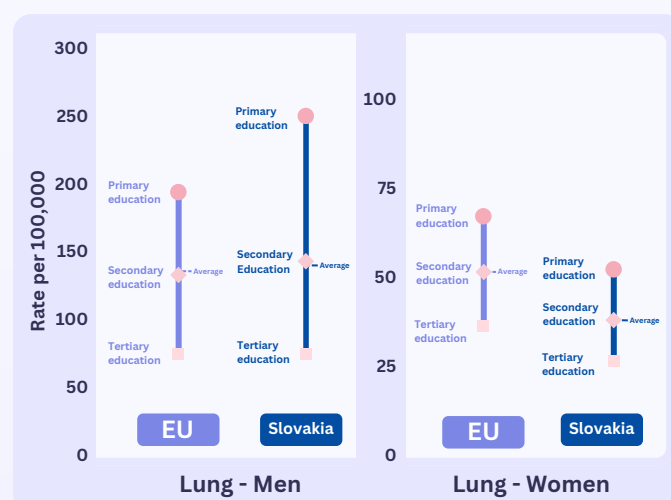


Figure 2.a. Cancer-specific mortality by sex and education level: lung



Colorectal and stomach cancers

Colorectal and stomach cancer mortality rates in Slovakia were above the European average in both sexes. For both cancers, a social gradient was found among men and women, though it was more prominent among men. The inequalities gap was larger than the corresponding European average for colorectal cancer in both sexes, and for stomach cancer in men. Inequalities in the past exposure to risk factors, i.e., alcohol consumption, smoking, poor diet, obesity [1] and to *Helicobacter pylori* infection [2] (for stomach cancer) between sexes and across socio-economic groups may partly explain these inequalities. At the beginning of the millennium (2002), average alcohol consumption was among the highest in Europe [3]. In recent times (2020), hazardous alcohol consumption was more prevalent in men (1.6%) than in women (0.4%) [1]. Moreover, the uptake of colorectal cancer screening shows a gradient across educational groups. In 2019, 47% of individuals with primary education reported to have never had a colorectal cancer screening test compared to 40% with secondary and 35% with tertiary education [4].



Breast cancer

Breast cancer was the largest contributor to total cancer mortality among women. The national average mortality rate was higher than the European average. No clear social gradient was observed as women with secondary education had the lowest mortality rates compared to those with primary and tertiary education. The absence of a social gradient could be explained by the balancing effect of educational differences in several factors, including risk factors, screening, early diagnosis, and treatment options [5]. Breast cancer screening participation varied by education level, with 63% of women with higher education undergoing screening, while the rate was 41% among those with lower education [1].



Prostate cancer

The national average mortality rate for prostate cancer was higher than the European average. A clear social gradient was observed with increasing mortality as educational levels decreased. These inequalities could be, at least partly, explained by inequalities in the stage at diagnosis, and disparities in timely access to treatment across educational groups [6].

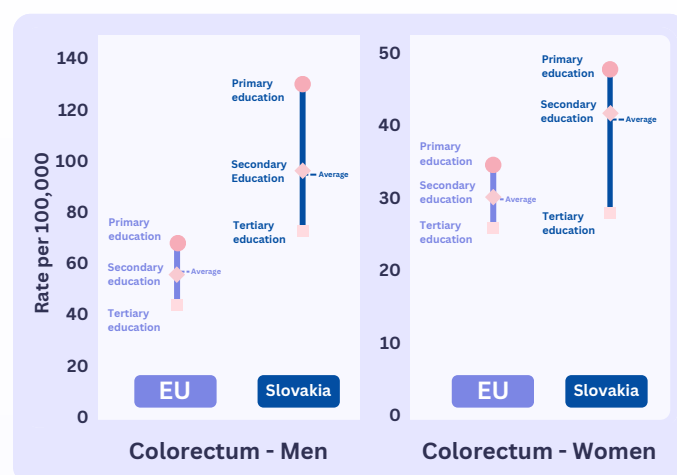


Figure 2.b. Cancer-specific mortality by sex and education level: colorectum

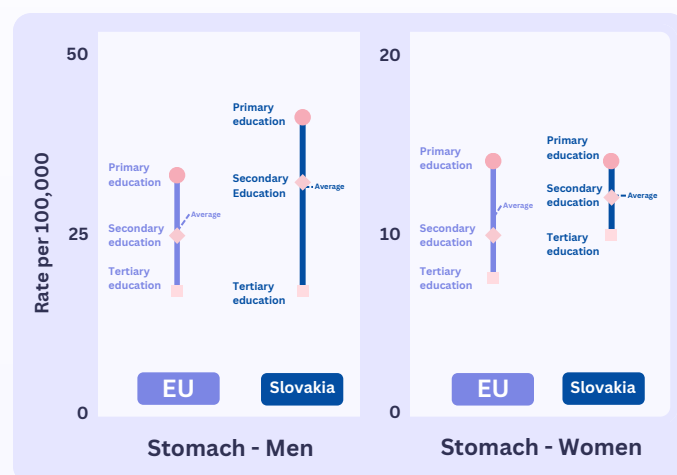


Figure 2.c. Cancer-specific mortality by sex and education level: stomach

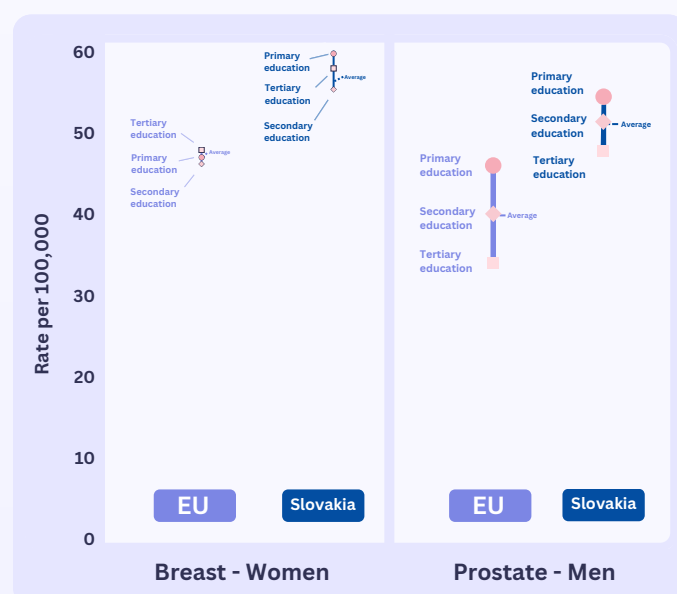


Figure 2.d. Cancer-specific mortality by sex and education level: breast (left), prostate (right)



Cervical cancer

Cervical cancer mortality rates were lower than the corresponding European average. A social gradient was observed, with progressive increasing mortality rates as educational levels decreased. Although cervical cancer screening participation rates in Slovakia are close to the European average, educational gaps in screening uptake persist. Women with lower education level had a much lower participation rate in cervical cancer screening, as compared to those with high education (33% vs 80%) [1]. The scale-up and equitable implementation of Human papillomavirus (HPV) vaccination and HPV-based screening could potentially further decrease the disease burden and associated socio-economic disparities.

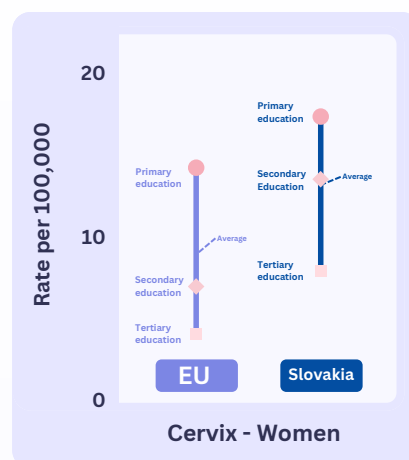


Figure 2.e.
Cancer-specific
mortality by
education level:
cervix

Methodological notes:

Findings are based on the ERAINHE dataset, which includes mortality data by educational attainment, age group, sex, period, country and cause of death. For most countries, the data are derived from individually-linked records, collected and harmonized in different periods in different projects (for the full description see the Methodological report). Geographical and temporal gaps in the ERAINHE dataset were addressed using complementary data sources and appropriate estimation methodologies tailored to the availability of the data. Age-standardised (European Standard Population) mortality rates by educational level for individuals aged 40–79 years were thus estimated for 2015–2019, using four different methods:

- **Method for group A countries**, for countries with at least 3 recorded observations over different periods of time: actual observed data for 2015–2019 (when available) or projections based on linear regression models;

- **Method for group B countries**, for countries with 1 or 2 recorded observations only: incomplete data combined with trends from other databases;
- **Method for group C countries**, for countries with no observations for certain cancer sites: integration of data from different databases with information from countries in the same geographical area;
- **“Back-calculation” method**, for countries without available data in the ERAINHE dataset: combination of population a mortality data from different databases with information on educational inequalities in cancer from countries in the same geographical area.

For Slovakia, the method for group B was used. Since this method is based on a relatively small number of observations, caution is advised when interpreting the results



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